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- h.* Was the patient incontinent?
- i.* If patient uttered spontaneous remarks, record them in the patient's own words.
- j.* The condition of the pupils, dilated or contracted?
- k.* Pulse, temperature, respiration, should be noted.
- l.* Condition of the skin.
- m.* Injuries.
- n.* Weakness of limbs.
- o.* How did the convulsion terminate? Did it pass into stupor, sleep, or excitement?

*The management of a convulsion.* Should the nurse detect the approach of a convulsion, she should take all the proper precautions to prevent the patient from falling. It is advisable to put the patient to bed, remove artificial teeth, loosen his clothing and keep constant watch of him. When the patient falls in a convulsion, let him lie, provided his position is comfortable. It is essentially important to loosen his clothing, particularly around the waist and neck, remove artificial teeth and place a pillow under his head. In order to prevent the biting of the tongue, a mouth gag in the form of a cork or folded towel should be placed between his teeth, but he must be carefully watched in fear that he might swallow it. Use every possible means of preventing self-injury, in such cases some restraint is advisable. *No medication should be employed.* Should the patient, following the convulsion, become violent and excited, medication or physical restraint are necessary in order to avoid bodily injuries as well as homicidal attacks.

## OUR WATER SUPPLY

By KATHARINE COOKE, *Plattsburgh, N. Y.*

Perhaps there are many who realize but little how much they depend upon the water supply of our country. This fact is not brought home to them until in some way they are deprived of it, and then, even if this happens for only a short time, they fully realize the inconvenience caused by its absence, as well as its absolute necessity to life.

It is our aim, of course, to have the water as pure as possible and to obtain it from such a source that it may be in the very best condition. There are six natural sources from which we may get our supply of water, and each is characteristic of itself, namely, river, lake, spring, well, sea, and rain water.

River water usually originates in pure springs, but owing to the cities built along its course, it soon becomes polluted. Lake water may be

fresh or salt, and often contains mineral substances. Spring water is soft and pure, coming from both fresh and mineral springs, the latter of which are very useful for medicinal purposes. Well water is closely allied to spring water, but is apt to be hard on account of the presence of salts in the rock formation. The purest well water comes from artesian wells, but cannot be used too freely in some localities, on account of the large amount of mineral matter which injures the kidneys. Sea water is mostly alkaline and contains a large quantity of gases from the atmosphere. Rain water would be the purest of all if it could be taken at the moment of condensation, but in passing through the air it collects impurities, and is always more pure at the end of a shower than at the beginning.

Bacteria are found in all natural waters, more or less, but it is the impurities that must be looked out for. By these we mean those substances that injure the health. These may be either organic or inorganic; gaseous or solid. The organic impurities are of two kinds; dead organic matter, and living organisms. The former has no effect upon the health, but the latter are important, being either of vegetable or animal origin, and very injurious. Of these the typhoid and cholera bacillus are most familiar.

The diseases which may be produced by these bacteria are Asiatic cholera, typhoid fever, diarrhoea and dysentery. The gaseous impurities in water are hydrogen sulphide and sulphur dioxide. The solid impurities are of three classes; the poisonous minerals, such as lead, zinc and arsenic; alkaline salts and iron; and salts which indicate the nature and extent to which the water is polluted. Hydrogen sulphide may produce diarrhoea; sulphur dioxide, diseased bones in cattle; dissolved vegetable matter, fevers; suspended mineral matter, dysentery; iron, dyspepsia and constipation. Goiter may be due to certain formations from metallic substances, as iron or copper. It has even been suggested that cancer is caused by polluted water, but the question has never been settled.

A grown person requires about three quarts of water every day, about one-third of which is contained in our solid food, and the rest in tea, coffee, drinking-water, etc. Much may be used for laundry, bathing, and domestic purposes. Aside from this, we must consider the washing of the streets and sidewalks, the sprinkling of lawns, and its use in hospitals. We find that even with care, there is a tremendous waste of water.

In olden times, people drank of the water in the community in which they lived, and never thought of such a thing as its being impure, but in these days of advanced science, we find the purification of our drinking water an absolute necessity. It has been said that some lakes and

streams have a wonderful power of self-purification and that, in time, polluted rivers would purify themselves, but this idea has been given up after comparatively recent investigations.

We are all more or less familiar with filtration, and this is one of the most successful methods for purifying water. Sand filtration was first carried on in London, in 1839, and is still used in many European cities, as well as in our own country. Mechanical filtration is also in use largely for cities, and smaller filters of this class are a necessity for hotels, hospitals, etc.

Water may be purified without filtration by boiling, distilling, and treating with chemical substances. Boiling the water removes the gases and makes it tasteless, but this may be helped to a certain extent by pouring the water from one dish to another repeatedly. By distillation the water is made pure, but the process removes all the oxygen and carbonic acid gas, and makes it tasteless, and to improve this there have been several apparatuses invented which aerate the water at the time of distillation. Water for drinking purposes may be softened by the addition of lime water. Sodium carbonate may be used to soften water for washing purposes, but this could not be used in drinking water on account of its unpleasant taste.

Many chemicals have been proposed to sterilize water, with equally as many objections to them. In actual practice only three have been found useful; chloride of lime, potassium bromide, and ozone. The last is the only chemical which will sterilize water in large quantities and requires an electrical apparatus. The odor, taste and color of the water are not affected by this process.

Twenty years ago our supply of information upon this subject was very small, and it is astonishing how much progress has already been made toward the purifying of our water supply and the consequent lessening of disease. We may fully expect further progress and improvement in the coming years of this twentieth century.

## COÖPERATION OF HOSPITAL DEPARTMENTS

By MARION CZARINA MASON, R.N.

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The day on which a nurse takes over the supervision of a hospital marks an epoch in her life. She cannot fail to remember, in looking back upon that eventful time, a sense of vastness in the undertaking and a feeling of gratitude, moreover, to that kind Providence which opened to her the opportunity for so great a service. As a pupil, her work has